

IN THE SPECIFICATION

Please replace paragraph 26, with the following amended paragraph:

[0026] The present system can be extended with more channels, further improving the overall accuracy of the present system. The present system may be extended with a dynamic channel weighting function that uses human motor laws to calculate the plausibility of the user relying on either ~~least~~ location or shape information. For example, a user drawing a shape gesture very slowly would indicate that the user is producing a stroke by looking at the corresponding keys on the layout; hence the ~~least~~ location channel should have more weight than the shape channel and vice versa.

Please replace paragraph 66, with the following amended paragraph:

[0066] In another alternative embodiment, θ may be dynamically adjusted by calculating the total normative time of writing the pattern of word i :

where $D_{k, k+1}$ is the distance between the $[[k \text{ th}]]$ k^{th} and the $[[k+1 \text{ th}]]$ $(k+1)^{\text{th}}$ letters of word i on the keyboard; W is the key width, n is the number of letters in the word; and a and b are two constants in Fitts' law. In the context of virtual keyboard, the values of constants a and b are estimated at $a = 83\text{ms}$, $b = 127\text{ms}$. Reference is made to Accot, J., and Zhai, S., "More than dotting the i's - foundations for crossing-based interfaces," Proc. CHI. 2002, pages 73 – 80; and to Zhai, S., Sue, A., and Accot, J., "Movement model, hits distribution and learning in virtual keyboarding," Proc. CHI. 2002, pages 17 – 24.

Once $t_a(i)$ for each word, and the total time of the actual gesture production t_a are determined, it is then possible to modify the probability calculated from the location based classifier. This information could be used to adjust the θ value with in the following equation:

$$\text{if } t_a > t_n(i), \theta_n = \theta$$

$$\text{if } t_a < t_n(i), \theta_l = \theta$$

This means that the actual time is greater than the Fitts' law ~~prediction, the prediction~~. The user could be taking time to look for the keys. No adjustment is needed in this case.

$$\text{If } t_a > t_n(i), \text{ If } t_a < t_n(i), \quad \theta_L = \theta(1 + \gamma \log_2(t_n(i)/t_a))$$

For example, if t_a is 50% of $t_n(i)$, θ will increase by 100% percent, γ is an empirically adjusted parameter, expected to be between 1 and 10.

It should be noted that this approach is more than simply adjusting the relative weight between the location and the non-location channels. It modifies the location based channels' probability of each individual word according to its path on the keyboard.